

TEACHING NATURE: FROM PHILOSOPHY TO PRACTICE

by David Hutchison

David Hutchison is an educator and ecologists. In this paper, he suggests how ecological vision can be translated into five aspects of educational practice: the interdisciplinary emphasis, eco-orientation to citizenship, inquiry learning, outdoors acclimatization, and social activism. These five levels of training constitute the holistic preparation for forging new levels of responsibility and sensibility for the natural world in the self-actualized adult.

The basic question I have is this: Given all of the research that is out there on children's experience with nature and the contribution of nature to children's healthy development, learning, and self-esteem, why *is it not* happening in schools? It may be happening in some Montessori schools, but it's not happening overall in education, and earth-centered Montessori schools are a minority player out there in terms of the vast schooling that children receive. And so today what I'm going to do is offer you five different philosophies of nature education, all of which emerge in contrast to Montessori's developmentally congruent view of the importance of contact with nature in childhood.

PROBLEMATIZING NATURE EDUCATION

One of the things that I want to do before I actually talk about the five traditions is talk a little bit about nature education in general. In some ways the things that Louise Chawla was talking about just do not reach—they're not heard—by the typical teacher in public school. Many teachers are dealing with things that are very far removed from the developmental need to experience nature. They're busy coping with a core curriculum, the never-ending testing of students, fewer resources in the name of educational efficiency, and the need to cram as much curriculum into students' heads as possible. So the things that we're talking about in this conference represent something that's unique, that's far flung from what most educational conferences are about.

There are criticisms and ignorances that are directed to teachers of nature education as a whole. I call them ways of problematizing nature education.

And here are several of them. The first one is actually a quotation attributed to President Ronald Reagan. Did he actually say it? I don't know for sure, but this statement is now folklore in the environmental movement. When asked about his environmental philosophy, he replied, "If you've seen one redwood tree, you've seen them all."

There is an impatience attached to this notion. This statement is basically the view that there is no value to nature education because we live in a cultural, man-made, and physically constructed universe. We're separate from nature—we don't need to acknowledge nature, we don't need to build a relationship with nature. It is something that is out there, that we dominate over and can exploit for our own purposes. This thinking is the basis of the industrial revolution, and it continues today, even in this information society. This sentiment has contributed much to modern life. So, too, it represents one of the pillars of anti-environmentalism that we are working against as nature educators.

A second way nature education is problematized is through the sentiment that we should avoid nature at all costs. Many children do not leave the classroom to do nature study. They study worksheets. Or they watch a video. And that's it. That's the be-all and end-all of nature studies in many schools. We know that for rich, dynamic learning to occur, children need to have an experience in nature, to build a relationship with nature. The aim of nurturing an aesthetic appreciation of nature can't be achieved by watching a video. This is one of the other things that nature educators need to work against, and it is perhaps rooted in a deep-seated fear of nature, a

fear of taking children outside—a concern for the wildness of nature (and children) on the part of teachers. So we just limit nature education to what we can do inside the classroom.

We also need to challenge the apologists. There is a huge anti-environmental education lobby in the United States. It is not as huge in Canada, where I live, or most other places in the world. These are the folks who challenge any type of environmental curriculum, no matter how innocuous. They often represent the interests of corporations and big business—oil companies and the like. Sometimes the interests of these companies are hidden in the text of the environmental curriculum they produce, but they nevertheless challenge basically any kind of teaching of environmental values that would work against the interests of most environmentally problematic industries.

The next way to problematize nature education is to fail to move from *ownership* to *stewardship* to *relationship*. We live in a world where all of us own things. Property is a major theme of our lives. We go and buy stuff, we know that we have this house, this car that's ours. Even our relationships with our children come under this umbrella. We have a sense of ownership over that relationship and we don't want schools to be teaching certain things to them—for example, values that, while socially progressive, may offend our personal sensibilities. So pride in ownership is an undercurrent of living in a consumer society. And it carries over to the way environmental education is taught. Take a look at this example of a nature activity called *Staking a Claim*:

Divide the group into teams of four or five each. Each team stakes out a claim of a natural space using a piece of string about six yards long with both ends joined. The object is to see how many different things students can find in the claim. Members of the team report each find to an appointed secretary who writes it down. Each team *owns* everything over its claim, the branch of a tree, the blue sky. If a cloud passes over the claim, it may be counted. If a fly goes over it, a bird or even a beetle walks in, these may be written down. The team also owns the ground under the claim and they can dig in it with their hands or sticks if they like. After time is called, the teams visit each other's claims and hear the secretary's report. (Scarborough Board of Education 79, italics added)

The activity itself is not a poor one. It's a good activity. It's focused on studying microspaces, which is a laudable teaching goal. Yet embedded in this activity—indeed all curriculum—is a certain set of values. And in this case the values speak of property and ownership. And as such, as an environmental education activity, it sends the wrong message. And children do get that message. It's part of the implicit curriculum that underlies this activity. And so I would conclude that this activity is wasted on students because the value that they glean from it is "I own nature."

Louise [Chawla] responded to a question that came up at the very end of her talk: the notion of how we start small in teaching children about the local environment, and then get bigger as we gradually move outwards to teach about the whole global environment. And she had some suggestions on how we can do that. I also want to offer a suggestion that extends from my reading of Montessori. Although Dr. Montessori would certainly support a focus on the local, her writings reveal a strong, if not even stronger, focus on the global.

Montessori has this wonderful notion of the universe story as a curricular framework for the middle years, and this story operates at the core of Cosmic Education. Montessori argues that we should start with all those things we have in common with one another—not just with people but with animal and plant species too. The universe story does not both begin and end with human civilizations, as do traditional history programs in public schools; rather, it finds its origins in the primordial geological tales of the Earth before life and, even before that, the formation of the universe. There is recognition here that the child has a relationship with all of nature, not just the human part of nature. I want to remind you that you don't have to start small, with a school garden. You don't even have to start slightly bigger by studying the local community; rather, teachers can start by situating the Earth within the solar system. And from here they can move to situate our continent, North America, within the globe in order to help children gradually develop a sense of place in space by carefully studying where they're situated within these large-scale environments. And then you can take this whole notion of large-scale environments and really work with it in terms of children's studies in geography and the sciences, among other subjects.

This is another kind of approach to nature education. The study of the local community moves from the intimacy of children's immediate experience of their neighborhood to an understanding of large-scale environments—settings we can comprehend only on an abstract level. But you can also start large and go small, and one of the reasons Montessori has for starting large is to help children to focus on those things that we hold in common with other people and other species. And, of course, as a way of addressing some of the environmental and other challenges we face in the world today, this might well be one of the antidotes—start with the things that we hold in common and gradually work our way through the differences and celebrate those differences once those things that we have in common have been established.

So there are numerous prescriptions for how we should teach about nature. Should we start with

what's called global education, really looking for the connections between people and places around the world, or should we start with the immediacy of the local environment—the school playground, the neighborhood, a child's route to school, for example?

PHILOSOPHIES OF NATURE EDUCATION

Let's return to the question that opened this presentation: Given all of the research that is out there on children's experience with nature and the contribution of nature to children's healthy development, learning, and self-esteem, why is it not happening in schools? Thus far, I have offered a number of explanations, but one of the basic answers to this question may also be that many educators simply don't start with where children are at. They start instead with a prescribed curriculum that is handed down to them "from on high" or with a set of learning that extends from something other than



Courtesy of Marin Montessori School, Corte Madera, California

children's developmental experience of the world. The educational philosophies that underlie these realities are certainly valid approaches to teaching and learning, and I think it's important to be aware of them if we want to carve out a different space for nature education—a space that is more intimate, more responsive to children's developmental experience and connected to the natural world.

Disciplinary Initiation

A very important philosophy in schools today is disciplinary initiation. This is the view that we have, in our world, throughout human history, established a set of definable disciplines that scientists, artists, poets, writers, musicians, historians, geographers, and others have slowly established over the course of several centuries by carving out specific methodologies, reworking the evidence, and building a clear sense of how we can look at the world from the differing perspectives of the geographer, historian, artist, etc. Each discipline represents a particular way of looking at the world. Significantly, disciplinary advocates argue that

these disciplines look at the world in such different ways that one cannot reduce them into any one way of looking at the world. Each discipline is unique and should be respected as such. So these folks fight against thematic approaches to educational reform, in which a topic is placed at the center of students' inquiries and any number of disciplines are melded together to enrich the study of this topic from a variety of perspectives.

Many of you may be familiar with the public system's habit of beginning a rotary system of instruction at about grade seven. From this point forward, students study subjects separately in schools. They rotate from classroom to classroom, and they go from specialist teacher to specialist teacher. Such a strategy goes hand in hand with the disciplinary orientation. The aim here is to induct students into disciplinary thinking. There is this body of tested knowledge and skills that has been strategically built up over time by scientists and artists, for example, and the main purpose of education is to induct children into thinking about the world from the perspective of a geographer, chemist, or musician. The ultimate



Courtesy of Brad Bachulis

aim is to help children go confidently into the real world, solving problems they encounter using the disciplinary tools they have built up throughout their education.

Disciplinary initiation adheres to the structure, methodology, and root metaphor of distinct subject areas. For example, the root metaphor of geography is *place*. The root metaphor of history is *time*. Disciplinary advocates want students to have an in-depth understanding of how the concept of place is reflected in the discipline of geography, how it's been built up, challenged, and built up again over time. They want students to be familiar with the tools that geographers use so that they can employ them in their daily life. Disciplinary initiation promotes, as I mentioned earlier, the sovereignty of segregated subjects. It argues against the teaching of subjects in an interdisciplinary, thematic way.

Disciplinary initiation also avoids nonscholarly value judgments. A lot of the things that Louise was talking about are cultural, holistic, or even naturalistic values that fly in the face of disciplinary thinking. Science, geography, history, and other subject areas have each built up their own conceptions of nature. Nature education as envisioned at this conference does not conform to any one of the above, but rather celebrates a holistic and transdisciplinary conception that endeavors to bring a diversity of ideas about nature together. Advocates of disciplinary initiation would prefer to keep things, in terms of nature study, compartmentalized into disciplinary areas.

So, from a disciplinary initiation perspective, what subject area is most closely associated with nature study? I would say *environmental science*. Such a course is available to students in some—but not all—high schools as a disciplinary area they can choose to study. (As it is a specialized area of biology, it is not a mandatory course in most school districts.) It's likely to be taught from a scientific vantage point, which means students study nature from the perspective of scientists, rather than as participatory members of the natural world. No doubt environmental science has an awful lot of value—after all, it provides much of the data to support conclusions related to global warming, for example—but it misses out on the cultural roots of the ecological crisis, as well as the intersection

of ecology and economy, political science, popular culture, and other themes. Disciplinary initiation offers an important, if restricted, perspective from which to build a nature education program, but it is perhaps not the be-all and end-all of education for environmental action.

Citizenship Education

Here is another contrasting orientation for nature education: *citizenship education*. This is the educational ideology that seeks to imbue in children a strong sense of nationhood, feelings of patriotism, and a strong sense of character. American history and geography are important subject foci within this orientation, but for an environmental perspective, we need to look elsewhere—to *natural history* as a pivotal American tradition envisioned by environmental writers such as Thoreau and Muir, as well as artists such as Ansel Adams. There are many other examples of strong American environmentalists who were natural historians. And, in many ways, their arguments and place perspectives emerge within a citizenship education orientation which does not forsake nature but rather celebrates the American landscape as part and parcel of our natural heritage.

Where do we live? Well, I live in Canada. You folks, most of you I expect, live in the United States. And so, although the citizenship orientation normally excludes nature completely, there is an opportunity within this tradition to be a proud American within the context of celebrating the continuity of the human and natural worlds as exemplified through the American landscape, a study of painting and photographs, field trips, studies in geology and ecology, and the reading of historical texts that foreground the natural amenities of the United States. From an environmental perspective, a proud citizen of the United States should have a strong sense of one's natural heritage.

Both of the traditions that we have just looked at—disciplinary initiation and citizenship education—can likely delineate a core curriculum, which can then be transmitted to students over time. In the disciplinary initiation and citizenship education traditions, students may be involved in all kinds of participatory and interactive activities, but at the end of the day there is a certain set of knowledge and values that need to be transmitted to students.

Inquiry Learning

Here we switch to a new perspective on learning that's more common in elementary schools, as well as Montessori, and this is the *inquiry learning* perspective, which foregrounds the *act* of learning over a prescribed *set* of learnings that need to be transmitted to students. This tradition emerges out of the Deweyan notion of community participation and problem solving within an experiential/reflexive context. The aim is to nurture children who possess advanced inquiry, problem solving, and group work skills and who grow up to be rational and community-minded decision makers.

Learning follows a transactional path in this tradition because student and curriculum are interacting with one another in an intimate way. I think this really resonates with the Montessori notion of the prepared environment. Many people who teach outside of the Montessori tradition believe that you folks just have children work with some interactive materials and that does the teaching. But as we know, it's the working with the materials within the context of the mind/brain/hand connection that gradually builds up a child's cognitive powers. We are talking here about a transactional perspective. Just as the child works on the materials, so too the materials also work on the child, and so it is a sort of give and take between child and world that moves learning to new levels. The same can be

said of children's interaction with nature. When we take children into the out-of-doors and do the kinds of things that Louise was talking about in terms of play, learning, and gardening in nature, we don't simply have an experience in nature, but rather we engage ourselves in a kind of dialectic with the natural world, allowing nature to inform us just as we inform nature. I talk about this interaction in relation to both Montessori and Froebel in my book, *Growing Up Green*. It follows from this that the approach to nature education favored by advocates of inquiry learning is *discovery learning*. Children interact with, play in, learn via, and study nature. They directly experience the out-of-doors.

Personal Growth

Here's the second-to-last orientation I wish to discuss. It's called the *personal growth* orientation. The personal growth orientation aims to nurture self-actualized individuals who have a strong sense of self-esteem, are self-assured in who they are as individuals, and have a clear sense of their individual life goals. I emphasize the word *individual* repeatedly because this philosophy is very much an individualistic one. Indeed, strident individualism is one of the environmentally problematic elements of the personal growth orientation as it tends to ignore the natural world as well as the cultural dimensions of our lived lives—the very interconnections that bind us to each other and to nature.



Courtesy of Sunnyside Montessori, Bend, Oregon



Courtesy of Colegio Montessori de Tepoztlán's Farm School, Chiconcuac, Morelos, Mexico

There's a strong focus on self-esteem and personal identity in this orientation. It promotes individual self-development. Values are judged to be relative and individually constructed and so some of the key questions that teachers in this tradition ask of students are: "What do you want to be when you grow up?" "What kind of person do you want to be?" "What values will you hold?"

The nature education approach that most closely conforms to the personal growth philosophy (with its strong affective focus) is *acclimatization*. The acclimatization approach to nature education takes students into the out-of-doors, where they experience nature in the most intimate of ways, on an aesthetic level by incorporating it into their artwork, by actually getting into the muck and doing pond studies *in* the pond rather than on the periphery, by experiencing nature using all the five

senses—hearing, smell, taste, and touch, as well as sight. It aims to build a bond between child and nature, not so much at a cognitive level in terms of studying the names of things or the properties of natural species, but in terms of actually connecting with nature on an aesthetic, kinesthetic level, if you will, through the five senses. So this brings a very different perspective to nature education than the philosophies explored above.

Social Action

We have one more perspective to look at, and it is the one that Louise referenced towards the end of her talk. This is the *social action* perspective, which aims to empower students to change the world. The word *empower* is an important word in this tradition. Focused in part on social criticism, teachers working with this tradition will often involve students in a study of current events, media literacy, social

activism, social justice, the developing world, and other topics not traditionally addressed by the orientations reviewed thus far.

Students within this tradition might take on a local business that is importing goods made with slave labor in the developing world, or they might conduct a river study of a watershed or stream near the school. In some cases, presentations on polluted water bodies in a neighborhood have been made by children to the local city council, who have in turn acted on such information. And so the social action philosophy aims to teach children that they can transform the world, make it into a better place. And it aims to empower students to believe that they can make a difference.

CONCLUSION

These five educational traditions—disciplinary initiation, citizenship education, inquiry learning, personal growth, and social action—are each represented at various levels of schooling in the United States today. So too each forwards a contrasting view of what nature education should comprise. In thinking about a holistic approach to nature education, I think

it is important to be aware of these traditions. Even better, as Montessori educators, we should attempt to forge links between the Montessori approach to nature study and, for example, an acclimatization approach to experiencing nature on an immediate sensorial, kinesthetic level. Or perhaps there are ways of combining the strictly academic pursuit of environmental science in the disciplinary initiation tradition with Montessori's advice to us to teach the story of the universe. Finally, most importantly, given the sharp decline in natural spaces in the United States, we need to forge a new sensibility for citizenship education, one that foregrounds nature and celebrates the wondrous heritage of the American landscape that so many writers and artists have lauded throughout the last few centuries.

REFERENCES

- Hutchison, David. *Growing Up Green: Education for Ecological Renewal*. New York: Teachers College Press, 1998.
- Scarborough Board of Education. *Social and Environmental Studies Curriculum, Grade 5*. Toronto: Scarborough Board of Education, 1988.

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